Chapter 173-16 SHORELINE MANAGEMENT ACT GUIDELINES FOR DEVELOPMENT OF MASTER PROGRAMS

Last Update: 4/24/91

Sections

WAC 173-16-010 Purpose.

This regulation is adopted pursuant to chapter 90.58 RCW, in order to: (1) Serve as standards for implementation of the policy of chapter 90.58 RCW for regulations of uses of the shorelines; and

(2) Provide criteria to local governments and the department of ecology in developing master programs.

[Order DE 72-12, § 173-16-010, filed 6/20/72 and 7/20/72.]

WAC 173-16-020 Applicability.

The provisions of this chapter shall apply state-wide to all shorelines and shorelines of state-wide significance as defined in chapter 90.58 RCW and WAC 173-16-030.

[Order DE 72-12, § 173-16-020, filed 6/20/72 and 7/20/72.]

WAC 173-16-030 Definitions.

As used herein, the following words and phrases shall have the following meanings:

(1) "Act" means Shoreline Management Act of 1971, chapter 90.58 RCW.

(2) "Department" means state of Washington, department of ecology.

(3) "Development" means a use, consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel or minerals; bulkheading; driving of piling; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to the act at any state of water level.

(4) "Director" means the director of the department of ecology.

(5) "Extreme low tide" means the lowest line on the land reached by a receding tide.

(6) "Guidelines" means those standards adopted to implement the policy of this chapter for regulation of use of the shorelines of the state prior to adoption of master programs. Such standards shall also provide criteria to local governments and the department in developing master programs.

(7) "Hearings board" means the shorelines hearings board established by the act.

(8) "Local government" means any county, incorporated city, or town which contains within its boundaries any lands or waters subject to the Shoreline Act of 1971.

(9) "Master program" means the comprehensive use plan for a described area, and the use regulations, together with maps, diagrams, charts or other descriptive material and text, a statement of desired goals and standards developed in accordance with the policies enunciated in section 2 of the act.

(10) "Ordinary high-water mark" means the mark on all lakes, streams, and tidal waters, which will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation, as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department: Provided, That in any area where the ordinary high-water mark cannot be found, the ordinary high-water mark adjoining saltwater shall be the line of mean higher high tide and the ordinary high-water mark adjoining freshwater shall be the line of mean high water.

(11) "Permit" means that required by the act for substantial development on shorelines, to be issued by the local government entity having administrative jurisdiction and subject to review by the department of ecology and the attorney general.

(12) "Shorelines" means all of the water areas of the state, including reservoirs, and their associated wetlands, together with the lands underlying them, except:

(a) Shorelines of state-wide significance; (b) Shorelines on segments of streams upstream of a point where the mean annual flow is 20 cubic feet per second or less, and the wetlands associated with such upstream segments; and

(c) Shorelines on lakes less than 20 acres in size and wetlands associated with such small lakes.

(13) "Shorelines of state-wide significance" means the following shorelines of the state:

(a) The area between the ordinary high-water mark and the western boundary of the state from Cape Disappointment on the south to Cape Flattery on the north, including harbors, bays, estuaries, and inlets;

(b) Those areas of Puget Sound and adjacent saltwaters and the Strait of Juan de Fuca between the ordinary high-water mark and the line of extreme low tide as follows:

(i) Nisqually Delta - from DeWolf Bight to Tatsolo Point; (ii) Birch Bay - from Point Whitehorn to Birch Point; (iii) Hood Canal - from Tala Point to Foulweather Bluff; (iv) Skagit Bay and adjacent area - from Brown Point to
Yokeko Point; and

(v) Padilla Bay - from March Point to William Point. (c) Those areas of Puget Sound and the Strait of Juan de
Fuca and adjacent saltwaters north to the Canadian line and lying seaward from the line of extreme low tide;

(d) Those lakes, whether natural, artificial or a combination thereof, with a surface acreage of 1,000 acres, or more, measured at the ordinary high-water mark;

(e) Those natural rivers or segments thereof, as follows: (i) Any west of the crest of the Cascade Range downstream of a point where the mean annual flow is measured at 1,000 cubic feet per second, or more;

(ii) Any east of the crest of the Cascade Range downstream of a point where the annual flow is measured at 200 cubic feet per second, or more, or those portions of rivers east of the crest of the Cascade Range downstream from the first 300 square miles of drainage area, whichever is longer;

(f) Those wetlands associated with (a), (b), (d), and (e) of this subsection.

(14) "Shorelines of the state" means the total of all "shorelines" and "shorelines of state-wide significance" within the state.

(15) "State master program" means the cumulative total of all master programs approved or adopted by the department of ecology.

(16) "Substantial development" means any development of which the total cost, or fair market value, exceeds $1,000, or any development which materially interferes with normal public use of the water or shorelines of the state; except that the following shall not be considered substantial developments:

(a) Normal maintenance or repair of existing structures or developments, including damage by fire, accident, or elements;

(b) Construction of the normal protective bulkhead, common to single-family residences;

(c) Emergency construction necessary to protect property from damage by the elements;

(d) Construction of a barn or similar agricultural structure on wetlands;

(e) Construction or modification of navigational aids, such as channel markers and anchor buoys;

(f) Construction on wetlands by an owner, lessee, or contract purchaser, of a single-family residence, for his own use or for the use of his family, which residence does not exceed a height of 35 feet above average

grade level and which meets all requirements of the state agency or local government having jurisdiction thereof.

(17) "Wetlands" or "wetland areas" means those lands extending landward for 200 feet in all directions, as measured on a horizontal plane from the ordinary high-water mark and all marshes, bogs, swamps, floodways, river deltas, and flood plains associated with the streams, lakes and tidal waters which are subject to the provisions of the act.

[Statutory Authority: RCW 90.58.030, 90.58.120 and 90.58.200. 85-09-043 (Order DE 85-05), § 173-16-030, filed 4/15/85; Order DE 72-12, § 173-16-030, filed 6/20/72 and 7/20/72.]

WAC 173-16-040 The master program.

The master program is to be developed by local government to provide an objective guide for regulating the use of shorelines. The master program should clearly state local policies for the development of shorelands and indicate how these policies relate to the goals of the local citizens and to specific regulations of uses affecting the physical development of land and water resources throughout the local governments' jurisdiction.

The master program developed by each local government will reflect the unique shoreline conditions and the development requirements which exist and are projected in that area. As part of the process of master program development, local governments can identify problems and seek solutions which best satisfy their needs.

A master program, by its definition, is general, comprehensive and long-range in order to be applicable to the whole area for a reasonable length of time under changing conditions.

"General" means that the policies, proposals and guide- lines are not directed towards any specific sites.

"Comprehensive" means that the program is directed towards all land and water uses, their impact on the environment and logical estimates of future growth. It also means that the program shall recognize plans and programs of the other government units, adjacent jurisdictions and private developers.

"Long-range" means that the program is to be directed at least 20-to-30 years into the future, look beyond immediate issues, and follow creative objectives rather than a simple projection of current trends and conditions.

Finally, chapter 90.58 RCW requires that the master program shall constitute use regulations for the various shorelines of the state. Specific guidelines are outlined in RCW 90.58.100(1) for preparing the master programs to accomplish this purpose. It is the intention of these guidelines, especially those related to citizen involvement, and the inventory to aid in carrying out this section of the act.

To facilitate an effective implementation of chapter 90.58 RCW throughout the state, the procedures on the following pages shall be observed while developing master programs for the shorelines. Exceptions to some of the specific provisions of these guidelines may occur where unique circumstances justify such departure. Any departure from these guidelines must, however, be compatible with the intent of the Shoreline Management Act as enunciated in RCW 90.58.020. Further, in all cases, local governments must meet the master program requirements specified in the Shoreline Management Act of 1971.

The following provisions set forth guidelines as to citizen involvement. (1) Citizen involvement. While public involvement and notification is required of the master program at the time of adoption by the act, the general public must be involved in the initial planning stage during formulation of the master plan.

The act requires that prior to approval or adoption of a master program, or a portion thereof, by the department, at least one public hearing shall be held in each county affected by the program for the purpose of obtaining the views and comments of the public.

The act charges the state and local government with not only the responsibility of making reasonable efforts to inform the people of the state about the shoreline management program, but also actively encourages participation by all persons, private groups, and entities, which have an interest in shoreline management.

To meet these responsibilities, the local government agencies responsible for the development of the master program should establish a method for obtaining and utilizing citizen involvement. The extent of citizen involvement in the formulation of the master program will be considered by the department in the

review of the program. A failure by the local government to encourage and utilize citizen involvement, or to justify not having done so, may be noted as a failure to comply with the act.

Though the department recognizes various forms of citizen involvement as viable approaches for involving the public in the master program, the local government will be encouraged to utilize the method as suggested in these guidelines. If a local government does not followed these guidelines, it should provide an explanation of the method used. The department will be available to explain and help organize the suggested approach to citizen involvement upon request.

The suggested approach to citizen involvement to be utilized by the local government agency responsible for the development of the master program includes the following:

(a) Appoint a citizen advisory committee whose function will be to guide the formulation of the master program through a series of public evening meetings and at least one public hearing. The committee members should represent both commercial interests as well as environmentalists. However, the advisory committee itself is not to be a substitute for general citizen involvement and input. The aim of the committee will be to utilize citizen input in:

(i) Studying existing public policies related to shorelines.

(ii) Defining the needs to satisfy local demands for shorelines.

(iii) Studying the type and condition of local shorelines relative to needs.

(iv) Developing goals and policies for the master program with the local government fulfilling the specifications of the master program, including designation of the environments.

(v) Identifying use conflicts. (vi) Proposing alternatives for the use of shorelines. (vii) Examining the effects of the master program on the environment.

(b) The citizen advisory committee should hold at least three public meetings during development of the master program and designation of the environments according to the following guidelines:

(i) Public notice (as stated in subsection 1 below) must be provided seven days prior to the evening meeting.

(ii) All meetings must be open to the public for free discussion.

(iii) Meetings should be held in the evening at a location accessible to the general public.

(iv) Record of all meetings should be filed with the local government and made available to the public.

(v) Local government should provide resource persons to assist in the preparation, organization and diffusion of information.

(vi) The final evening meeting should be held at least seven days prior to the public hearing.

(c) A newsletter should be published by the advisory committee in cooperation with the local government.

(i) The information sheet should be available to the public at posted locations.

(ii) It should be available after the first evening public meeting and prior to the second.

(iii) The date, time, and location of future meetings and hearings should be stated.

(iv) A phone number should be provided to obtain further information.

(v) Public notice should be made of the availability of the newsletter as stated in subsection (d) below.

(d) Publicity of the master program should utilize: (i) Public notice postings as per subsection (i) below. (ii) Newsletter. (iii) Radio, T.V. and local news media. (iv) A local paper of general circulation. (v) Announcements to community groups. (e) At least one public hearing should be held by the local government after the three public meetings have been held to discuss the proposed master plan.

(i) Public notice (as stated in subsection (i) below) must be made a minimum of once in each of three weeks immediately preceding the hearing in one or more newspapers of general circulation in the area in which the hearing is to be held.

(ii) The master program should be available for public inspection at the local government office and available upon request at least seven days prior to the public hearing.

(f) Prior to adoption of the master program, all reasonable attempts should have been made to obtain a general concurrence of the public and the advisory committee. The method of obtaining or measuring concurrence must be established by the local government and must provide a clear indication of how citizen input is utilized.

(g) If the level of concurrence on the master program is not considered adequate by the advisory committee at the conclusion of the public hearing, the local government should hold subsequent public meetings and public hearings until such time as adequate concurrence as per subsection (f) above is reached.

(h) Attached to the master program upon its submission to the department of ecology shall be a record of public meetings and citizen involvement. A discussion of the use of citizen involvement and measurement on concurrence should be included.

(i) Public notice shall include: (i) Reference to the authority under which the rule is proposed.

(ii) A statement of either the terms or substance of the proposed rule or a description of the subjects and issues involved.

(iii) The time, place and manner in which interested persons may present their views thereon (as stated in RCW 30.04.025 [34.04.025]).

(2) Policy statements. Each local government shall submit policy statements, developed through the citizen involvement process, regarding shoreline development as part of its master program. Because goal statements are often too general to be useful to very specific decision problems, the policy statements are to provide a bridge for formulating and relating use regulations to the goals also developed through the citizen involvement process. In summary, the policy statements must reflect the intent of the act, the goals of the local citizens, and specifically relate the shoreline management goals to the master program use regulations.

Clearly stated policies are essential to the viability of the master programs. The policy statements will not only support the environmental designations explained below, but, also being more specific than goal statements, will provide an indication of needed environmental designations and use regulations.

The following methodology for developing policy statements is recommended:

(a) Obtain a broad citizen input in developing policy by involving interested citizens and all private and public entities having interest or responsibilities relating to shorelines. Form a citizen advisory committee and conduct public meetings as outlined in WAC 173-16-040(1) to encourage citizens to become involved in developing a master program.

(b) Analyze existing policies to identify those policies that may be incorporated into the master program and those which conflict with the intent of the act. Further, identify constraints to local planning and policy implementation which are a result of previous government actions, existing land-use patterns, actions of adjacent jurisdictions or other factors not subject to local control or influence.

(c) Formulate goals for the use of shoreline areas and develop policies to guide shoreland activities to achieve these goals.

The policies should be consistent with RCW 90.58.020 and provide guidance and support to local government actions regarding shoreline management. Additionally, the policies should express the desires of local citizens and be based on principles of resource management which reflect the state-wide public interest in all shorelines of state-wide significance.

(3) Master program elements. Consistent with the general nature of master programs, the following land and water use elements are to be dealt with, when appropriate, in the local master programs. By dealing with shoreline uses, systematically as belonging to these generic classes of activities, the policies and goals in the master programs can be clearly applied to different shoreline uses. In the absence of this kind of specificity in the master programs, the application of policy and use regulations could be inconsistent and arbitrary.

The plan elements are: (a) Economic development element for the location and design of industries, transportation facilities, port facilities, tourist facilities, commercial and other developments that are particularly dependent on shoreland locations.

(b) Public access element for assessing the need for providing public access to shoreline areas.

(c) Circulation element for assessing the location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other public facilities and correlating those facilities with the shoreline use elements.

(d) Recreational element for the preservation and expansion of recreational opportunities through programs of acquisition, development and various means of less-than-fee acquisition.

(d) Shoreline use element for considering: (i) The pattern of distribution and location requirements of land uses on shorelines and adjacent areas, including, but not limited to, housing, commerce, industry, transportation, public buildings and utilities, agriculture, education and natural resources.

(ii) The pattern of distribution and location requirements of water uses including, but not limited to, aquaculture, recreation and transportation.

(f) Conservation element for the preservation of the natural shoreline resources, considering such characteristics as scenic vistas, parkways, estuarine areas for fish and wildlife protection, beaches and other valuable natural or aesthetic features.

(g) Historical/cultural element for protection and restoration of buildings, sites and areas having historic cultural, educational or scientific values.

(h) In addition to the above-described elements, local governments are encouraged to include in their master programs, an element concerned with the restoration of areas to a natural useful condition which are blighted by abandoned and dilapidated structures. Local governments are also encouraged to include in their master programs any other elements, which, because of present uses or future needs, are deemed appropriate and necessary to effectuate the Shoreline Management Act.

(4) Environments. In order to plan and effectively manage shoreline resources, a system of categorizing shoreline areas is required for use by local governments in the preparation of master programs. The system is designed to provide a uniform basis for applying policies and use regulations within distinctively different shoreline areas. To accomplish this, the environmental designation to be given any specific area is to be based on the existing development pattern, the biophysical capabilities and limitations of the shoreline being considered for development and the goals and aspirations of local citizenry.

The recommended system classifies shorelines into four distinct environments (natural, conservancy, rural and urban) which provide the framework for implementing shoreline policies and regulatory measures.

This system is designed to encourage uses in each environment which enhance the character of that environment. At the same time, local government may place reasonable standards and restrictions on development so that such development does not disrupt or destroy the character of the environment.

The basic intent of this system is to utilize performance standards which regulate use activities in accordance with goals and objectives defined locally rather than to exclude any use from any one environment. Thus, the particular uses or type of developments placed in each environment must be designed and located so that there are no effects detrimental to achieving the objectives of the environment designations and local development criteria.

This approach provides an "umbrella" environment class over local planning and zoning on the shorelines. Since every area is endowed with different resources, has different intensity of development and attaches different social values to these physical and economic characteristics, the environment designations should not be regarded as a substitute for local planning and land-use regulations.

(a) The basic concept for using the system is for local governments to designate their shorelines into environment categories that reflect the natural character of the shoreline areas and the goals for use of characteristically different shorelines. The determination as to which designation should be given any specific area should be made in the following manner:

(i) The resources of the shoreline areas should be analyzed for their opportunities and limitations for different uses. Completion of the comprehensive inventory of resources is a requisite to identifying resource attributes which determine these opportunities and limitations.

(ii) Each of the plan elements should be analyzed for their effect on the various resources throughout shoreline areas. Since shorelines are only a part of the system of resources within local jurisdiction, it is particularly important that planning for shorelines be considered an integral part of area-wide planning. Further, plans, policies and regulations for lands adjacent to the shorelines of the state should be reviewed in accordance with RCW 90.58.340.

(iii) Public desires should be considered through the citizen involvement process to determine which environment designations reflect local values and aspirations for the development of different shoreline areas.

(b) The management objectives and features which characterize each of the environments are given below to provide a basis for environment designation within local jurisdictions.

(i) Natural environment. The natural environment is intended to preserve and restore those natural resource systems existing relatively free of human influence. Local policies to achieve this objective should aim to regulate all potential developments degrading or changing the natural characteristics which make these areas unique and valuable.

The main emphasis of regulation in these areas should be on natural systems and resources which require severe restrictions of intensities and types of uses to maintain them in a natural state. Therefore, activities which may degrade the actual or potential value of this environment should be strictly regulated. Any activity which would bring about a change in the existing situation would be desirable only if such a change would contribute to the preservation of the existing character.

The primary determinant for designating an area as a natural environment is the actual presence of some unique natural or cultural features considered valuable in their natural or original condition which are

relatively intolerant of intensive human use. Such features should be defined, identified and quantified in the shoreline inventory. The relative value of the resources is to be based on local citizen opinion and the needs and desires of other people in the rest of the state.

(ii) Conservancy environment. The objective in designating a conservancy environment is to protect, conserve and manage existing natural resources and valuable historic and cultural areas in order to ensure a continuous flow of recreational benefits to the public and to achieve sustained resource utilization.

The conservancy environment is for those areas which are intended to maintain their existing character. The preferred uses are those which are nonconsumptive of the physical and biological resources of the area. Nonconsumptive uses are those uses which can utilize resources on a sustained yield basis while minimally reducing opportunities for other future uses of the resources in the area. Activities and uses of a nonpermanent nature which do not substantially degrade the existing character of an area are appropriate uses for a conservancy environment. Examples of uses that might be predominant in a conservancy environment include diffuse outdoor recreation activities, timber harvesting on a sustained yield basis, passive agricultural uses such as pasture and range lands, and other related uses and activities.

The designation of conservancy environments should seek to satisfy the needs of the community as to the present and future location of recreational areas proximate to concentrations of population, either existing or projected. For example, a conservancy environment designation can be used to complement city, county or state plans to legally acquire public access to the water.

The conservancy environment would also be the most suitable designation for those areas which present too severe biophysical limitations to be designated as rural or urban environments. Such limitations would include areas of steep slopes presenting erosion and slide hazards, areas prone to flooding, and areas which cannot provide adequate water supply or sewage disposal.

(iii) Rural environment. The rural environment is intended to protect agricultural land from urban expansion, restrict intensive development along undeveloped shorelines, function as a buffer between urban areas, and maintain open spaces and opportunities for recreational uses compatible with agricultural activities.

The rural environment is intended for those areas characterized by intensive agricultural and recreational uses and those areas having a high capability to support active agricultural practices and intensive recreational development. Hence, those areas that are already used for agricultural purposes, or which have agricultural potential should be maintained for present and future agricultural needs. Designation of rural environments should also seek to alleviate pressures of urban expansion on prime farming areas.

New developments in a rural environment are to reflect the character of the surrounding area by limiting residential density, providing permanent open space and by maintaining adequate building setbacks from water to prevent shoreline resources from being destroyed for other rural types of uses.

Public recreation facilities for public use which can be located and designed to minimize conflicts with agricultural activities are recommended for the rural environment. Linear water access which will prevent overcrowding in any one area, trail systems for safe nonmotorized traffic along scenic corridors and provisions for recreational viewing of water areas illustrate some of the ways to ensure maximum enjoyment of recreational opportunities along shorelines without conflicting with agricultural uses. In a similar fashion, agricultural activities should be conducted in a manner which will enhance the opportunities for shoreline recreation. Farm management practices which prevent erosion and subsequent siltation of water bodies and minimize the flow of waste material into water courses are to be encouraged by the master program for rural environments.

(iv) Urban environment. The objective of the urban environment is to ensure optimum utilization of shorelines within urbanized areas by providing for intensive public use and by managing development so that it enhances and maintains shorelines for a multiplicity of urban uses.

The urban environment is an area of high-intensity land-use including residential, commercial, and industrial development. The environment does not necessarily include all shorelines within an incorporated city, but is particularly suitable to those areas presently subjected to extremely intensive use pressure, as well as areas planned to accommodate urban expansion. Shorelines planned for future urban expansion should present few biophysical limitations for urban activities and not have a high priority for designation as an alternative environment.

Because shorelines suitable for urban uses are a limited resource, emphasis should be given to development within already developed areas and particularly to water-dependent industrial and commercial uses requiring frontage on navigable waters.

In the master program, priority is also to be given to planning for public visual and physical access to water in the urban environment. Identifying needs and planning for the acquisition of urban land for permanent public access to the water in the urban environment should be accomplished in the master program. To enhance waterfront and ensure maximum public use, industrial and commercial facilities should be designed to permit pedestrian waterfront activities. Where practicable, various access points ought to be linked to nonmotorized transportation routes, such as bicycle and hiking paths.

(5) Shorelines of state-wide significance. The act designated certain shorelines as shorelines of state-wide significance. Shorelines thus designated are important to the entire state. Because these shorelines are major resources from which all people in the state derive benefit, the guidelines and master programs must give preference to uses which favor public and long-range goals.

Accordingly, the act established that local master programs shall give preference to uses which meet the principles outlined below in order of preference. Guidelines for ensuring that these principles are incorporated into the master programs and adhered to in implementing the act follow each principle.

(a) Recognize and protect the state-wide interest over local interest. Development guidelines:

(i) Solicit comments and opinions from groups and individuals representing state-wide interests by circulating proposed master programs for review and comment by state agencies, adjacent jurisdictions' citizen advisory committees, and state-wide interest groups. (See Appendix, Reference No. 32.)

(ii) Recognize and take into account state agencies' policies, programs and recommendations in developing use regulations. Reference to many of these agencies' policies are provided in the appendix. This information can also be obtained by contacting agencies listed in the Shoreline Inventory Supplement Number One.

(iii) Solicit comments, opinions and advice from individuals with expertise in ecology, oceanography, geology, limnology, aquaculture and other scientific fields pertinent to shoreline management. Names of organizations and individuals which can provide expert advice can be obtained from the department's resource specialist listing.

(b) Preserve the natural character of the shoreline. Development guidelines:

(i) Designate environments and use regulations to minimize man-made intrusions on shorelines.

(ii) Where intensive development already occurs, upgrade and redevelop those areas to reduce their adverse impact on the environment and to accommodate future growth rather than allowing high intensity uses to extend into low intensity use or underdeveloped areas.

(iii) Ensure that where commercial timber-cutting is allowed as provided in RCW 90.58.150, reforestation will be possible and accomplished as soon as practicable.

(c) Result in long-term over short-term benefit. Development guidelines:

(i) Prepare master programs on the basis of preserving the shorelines for future generations. For example, actions that would convert resources into irreversible uses or detrimentally alter natural conditions characteristic of shorelines of state-wide significance, should be severely limited.

(ii) Evaluate the short-term-economic gain or convenience of developments in relationship to long-term and potentially costly impairments to the natural environment.

(iii) Actively promote aesthetic considerations when contemplating new development, redevelopment of existing facilities or for the general enhancement of shoreline areas.

(d) Protect the resources and ecology of shorelines. Development guidelines:

(i) Leave undeveloped those areas which contain a unique or fragile natural resource.

(ii) Prevent erosion and sedimentation that would alter the natural function of the water system. In areas where erosion and sediment control practices will not be effective, excavations or other activities which increase erosion are to be severely limited.

(iii) Restrict or prohibit public access onto areas which cannot be maintained in a natural condition under human uses.

(e) Increase public access to publicly owned areas of the shorelines. Development guidelines:

(i) In master programs, give priority to developing paths and trails to shoreline areas, linear access along the shorelines, and to developing upland parking.

(ii) Locate development inland from the ordinary high-water mark so that access is enhanced.

(f) Increase recreational opportunities for the public on the shorelines. Development guidelines:

(i) Plan for and encourage development of facilities for recreational use of the shorelines.

(ii) Reserve areas for lodging and related facilities on uplands well away from the shorelines with provisions for nonmotorized access to the shorelines.

[Order DE 72-12, § 173-16-040, filed 6/20/72 and 7/20/72.]

WAC 173-16-050 Natural systems.

This section contains brief and general descriptions of the natural geographic systems around which the shoreline management program is designed. The intent of this section is to define those natural systems to which the Shoreline Management Act applies, to highlight some of the features of those systems which are susceptible to damage from human activity, and to provide a basis for the guidelines pertaining to human-use activities contained in WAC 173-16-060.

It is intended that this section will provide criteria to local governments in the development of their master programs, as required in RCW 90.58.030(a).

(1) Marine beaches. Beaches are relatively level land areas which are contiguous with the sea and are directly affected by the sea even to the point of origination. The most common types of beaches in Washington marine waters are:

(a) Sandy beaches. Waves, wind, tide and geological material are the principal factors involved in the formation of beaches. The beach material can usually be traced to one of four possible sources: The cliffs behind the beach; from the land via rivers; offshore wind; and finally from longshore drifting of material. Longshore-drifting material must have been derived initially from the first three sources. Most beach material in Puget Sound is eroded from the adjacent bluffs composed of glacial till.

The effect of wave action on the movement and deposition of beach material varies depending upon the size of the material. Hence, in most cases, beaches composed of different sized material are usually characterized by different slopes and profiles. The entire process of beach formation is a dynamic process resulting from the effect of wave action on material transport and deposition. Initially, wave action will establish currents which transport and deposit material in various patterns. However, once a particular beach form and profile is established it begins to modify the effects of waves thus altering the initial patterns of material transport and deposition. Hence, in building beach structures such as groins, bulkheads or jetties, it is particularly important to recognize that subsequent changes in wave and current patterns will result in a series of changes in beach formation over time. (See WAC 173-16-060 (6), (11), (12) and (13).)

In the process of beach formation, sand particles are transported up the beach by breaking waves that wash onto the beach in a diagonal direction and retreat in a vertical direction. At the same time, longshore currents are created in the submerged intertidal area by the force of diagonally approaching waves. Beach material suspended by the force of the breaking waves is transported in one direction or another by the longshore current. Longshore drifting of material often results in the net transportation of beach material in one direction causing the loss of material in some areas and gains in others.

The profile of a beach at any time will be determined by the wave conditions during the preceding period. Severe storms will erode or scour much material away from the beaches due to the force of retreating waves. During calm weather, however, the waves will constructively move material back onto the beach. This destructive and constructive action, called cut and fill, is evidenced by the presence of beach ridges or berms. New ridges are built up in front of those that survive storm conditions as sand is supplied to the beach in succeeding phases of calmer weather. In time, the more stable landward ridges are colonized by successional stages of vegetation. The vegetation stabilizes the ridges, protects them from erosion and promotes the development of soil.

(b) Rocky beaches. Rocky beaches, composed of cobbles, boulders and/or exposed bedrock are usually steeper and more stable than sandy shores. Coarse material is very permeable which allows attacking waves to sink into the beach causing the backwash to be reduced correspondingly. On sandy shores a strong backwash distributes sand more evenly, thus creating a flatter slope.

On rocky shores a zonal pattern in the distribution of plants and animals is more evident than on muddy or sandy shores. The upper beach zone is frequently very dry, limiting inhabitants to species which can tolerate a dry environment. The intertidal zone is a narrow area between mean low tide and mean high tide that experiences uninterrupted covering and uncovering by tidal action. One of the major characteristics of this zone is the occurrence of tidal pools which harbor separate communities which can be considered subzones within the intertidal zone. The subtidal zone is characterized by less stressful tidal influences but

is subject to the forces of waves and currents which affect the distribution and kinds of organisms in this zone.

(c) Muddy shores. Muddy shores occur where the energy of coastal currents and wave action is minimal, allowing fine particles of silt to settle to the bottom. The result is an accumulation of mud on the shores of protected bays and mouths of coastal streams and rivers. Most muddy beaches occur in estuarine areas. However, some muddy shore areas may be found in coastal inlets and embayments where salinity is about the same as the adjacent sea.

Few plants have adapted to living on muddy shores. Their growth is restricted by turbidity which reduces light penetration into the water and thereby inhibits photosynthesis. In addition, the lack of solid structures to which algae may attach itself and siltation which smothers plants effectively prevents much plant colonization of muddy shores. While the lack of oxygen in mud makes life for fauna in muddy shores difficult, the abundance of food as organic detritus provides nutrition for a large number of detritus feeders.

(2) Spits and bars. Spits and bars are natural formations composed of sand and gravel and shaped by wind and water currents and littoral drifting. Generally a spit is formed from a headland beach (tall cliff with a curved beach at the foot) and extends out into the water (hooks are simply hookshaped spits). While spits usually have one end free in open water, bars generally are attached to land at both ends. These natural forms enclose an area which is protected from wave action, allowing life forms such as shellfish, to reproduce and live protected from the violence of the open coast. (See WAC 173-16-060(16).)

(3) Dunes. Dunes are mounds or hills of sand which have been heaped up by wind action. Typically, dunes exhibit four distinct features:

(a) Primary dunes. The first system of dunes shoreward of the water, having little or no vegetation, which are intolerant of unnatural disturbances.

(b) Secondary dunes. The second system of dunes shoreward from the water, with some vegetative cover.

(c) Back dunes. The system of dunes behind the secondary dunes, generally having vegetation and some top soil, and being more tolerant of development than the primary and secondary systems.

(d) Troughs. The valleys between the dune systems. Dunes are a natural levee and a final protection line against the sea. The destructive leveling of, or interference with the primary dune system (such as cutting through the dunes for access) can endanger upland areas by subjecting them to flooding from heavy wave action during severe storms and destroy a distinct and disappearing natural feature. Removal of sand from the beach and shore in dune areas starves dunes of their natural supply of sand and may cause their destruction from lack of sand. (See WAC 173-16-060(16).) Appropriate vegetation can and should be encouraged throughout the entire system for stabilization. (See WAC 173-16-060(21).)

(4) Islands. An island, broadly defined, is a land mass surrounded by water. Islands are particularly important to the state of Washington since two entire counties are made up of islands and parts of several other counties are islands. A fairly small island, such as those in our Puget Sound and north coast area, is an intriguing ecosystem, in that no problem or area of study can be isolated. Every living and nonliving thing is an integral part of the functioning system. Each island, along with the mystique afforded it by man, is a world of its own, with a biological chain, fragile and delicately balanced. Obviously it does not take as much to upset this balance as it would the mainland system. Because of this, projects should be planned with a more critical eye toward preserving the very qualities which make island environments viable systems as well as aesthetically captivating to humans.

(5) Estuaries. An estuary is that portion of a coastal stream influenced by the tide of the marine waters into which it flows and within which the sea water is measurably diluted with freshwater derived from land drainage.

Estuaries are zones of ecological transition between fresh and saltwater. The coastal brackish water areas are rich in aquatic life, some species of which are important food organisms for anadromous fish species which use these areas for feeding, rearing and migration. An estuarine area left untouched by man is rare since historically they have been the sites for major cities and port developments. Because of their importance in the food production chain and their natural beauty, the limited estuarial areas require careful attention in the planning function. Close scrutiny should be given to all plans for development in estuaries which reduce the area of the estuary and interfere with water flow. (See WAC 173-16-060(14).) Special attention should be given to plans for upstream projects which could deplete the freshwater supply of the estuary.

(6) Marshes, bogs, swamps. Marshes, bogs and swamps are areas which have a water table very close to the surface of the ground. They are areas which were formerly shallow water areas that gradually filled

through nature's processes of sedimentation (often accelerated by man's activities) and the decay of shallow water vegetation.

Although considered abysmal wastelands by many, these wet areas are extremely important to the food chain. Many species of both animal and plant life depend on this wet environment for existence. Birds and waterfowl choose these locations for nesting places. Wet areas are important as ground water recharge areas and have tremendous flood control value.

The high-water table and poor foundation support provided by the organic soils in these areas usually prevent development on them. The extraction of peat from bogs is possible when it is accomplished in such a manner that the surrounding vegetation and wildlife is left undisturbed and the access roads and shorelines are returned to a natural state upon completion of the operation.

The potential of marshes, bogs and swamps to provide permanent open space in urbanizing regions is high because of the costs involved in making these areas suitable for use. Unlimited public access into them, however, may cause damage to the fragile plant and animal life residing there.

(7) Lakes. A lake can be defined broadly as a body of standing water located inland. Lakes originate in several ways. Many lakes are created each year by man, either by digging a lake basin or by damming a natural valley. Natural lakes can be formed in several ways: By glaciers gouging basins and melting and depositing materials in such a way as to form natural dams; by landslides which close off open ends of valleys; extinct craters which fill with water; changes in the earth's crust, as can happen during earthquakes, forming basins which fill with water; or by changes in a river or stream course which isolate parts of the old course forming lakes, called oxbow lakes.

A lake, like its inhabitants, has a life span. This lifetime may be thousands of years for a large lake or just a few years for a pond. This process of a lake aging is known generally as eutrophication. It is a natural process which is usually accelerated by man's activities. Human sewage, industrial waste, and the drainage from agricultural lands increases the nutrients in a lake which in turn increases the growth of algae and other plants. As plants die, the chemical process of decomposition depletes the water's supply of oxygen necessary for fish and other animal life. These life forms then disappear from the lake, and the lake becomes a marsh or swamp.

Shallow lakes are extremely susceptible to increases in the rate of eutrophication resulting from discharges of waste and nutrient-laden runoff waters. Temperature stratification does not normally occur in shallow lakes. Efficient bottom-to-surface circulation of water in these shallow lakes moves nutrients to the surface photosynthetic zone encouraging increased biotic productivity. Large quantities of organic matter are produced under these conditions. Upon decomposition, heavy demands are made on the dissolved oxygen content of shallow lakes. Eventually, the oxygen level drops and some fish and other life forms die.

The entire ecosystem of a lake can be altered by man. By removing the surrounding forest for lumber or to provide a building site or farm land, erosion into the lake is accelerated. Fertilizers, whether agricultural or those used by homeowners, can enter the lake either from runoff or leaching along with other chemicals that interfere with the intricate balance of living organisms. The construction of bulkheads to control erosion and filling behind them to enlarge individual properties can rob small fish and amphibians of their habitats. The indiscriminate construction of piers, docks and boathouses, can deprive all of the waterfront owners and the general public of a serene natural view and reduce the lake's surface. (See WAC 173-16-060 (5), (8), (11), (12), (13).)

(8) Rivers, streams and creeks. Generally, rivers, streams and creeks can be defined as surface-water runoff flowing in a natural or modified channel. Runoff results either from excessive precipitation which cannot infiltrate the soil, or from ground water where the water table intersects the surface of the ground. Drawn by gravity to progressively lower levels and eventually to the sea, the surface runoff organizes into a system of channels which drain a particular geographic area.

The drainage system serves as a transportation network for nature's leveling process, selectively eroding materials from the higher altitudes and transporting the materials to lower elevations where they are deposited. A portion of these materials eventually reaches the sea where they may form beaches, dunes or spits.

Typically, a river exhibits several distinct stages as it flows from the headwaters to the mouth. In the upper reaches where the gradient is steepest, the hydraulic action of the flowing water results in a net erosion of the stream bed and a V-shaped cross section, with the stream occupying all or most of the valley floor.

Proceeding downstream, the gradient decreases and the valley walls become gentler in slope. A point is eventually reached where erosion and deposition equalize and the action of the stream changes from vertical cutting to lateral meandering. As the lateral movement continues, a flood plain is formed, over which the river meanders and upon which materials are deposited during floods. Finally, when the river enters a body of standing water, the remaining sediment load is deposited.

Extensive human use is made of rivers, including transportation, recreation, waste and sewage dumping and for drinking water. Rivers are dammed for the production of electric power, diked for flood control and withdrawn for the irrigation of crops. Many of these activities directly affect the natural hydraulic functioning of the streams and rivers as well as the biology of the water courses. (See WAC 173-16-060(17).)

(9) Flood plains. A flood plain is a shoreland area which has been or is subject to flooding. It is a natural corridor for water which has accumulated from snow melt or from heavy rainfall in a short period. Flood plains are usually flat areas with rich soil because they have been formed by deposits from flood waters. As such they are attractive places for man to build and farm until the next flood passes across the plain. In certain areas, these plains can be "flood proofed" by diking or building levees along the adjacent river or stream, but always with provisions for tremendous amounts of water that will sooner or later be generated by weather conditions. Streamway modifications can be placed in such a way to cause channelization. Channelization tends to destroy the vital and fragile flood-plain-shoreline habitats and increase the velocity of waters in times of extreme flow. (See WAC 173-16-060(17).)

This may cause considerable damage downstream even in areas already given some flood protection. In unprotected flood plains, land-use regulations must be applied to provide an adequate open corridor within which the effects of bank erosion, channel shifts and increased runoff may be contained. Obviously, structures which must be built on a flood plain should be of a design to allow the passage of water and, wherever possible, permanent vegetation should be preserved to prevent erosion, retard runoff, and contribute to the natural beauty of the flood plain.

(10) Puget Sound. Puget Sound is a complex of interconnected inlets, bays and channels with tidal sea water entering from the west and freshwater streams entering at many points throughout the system. Most of what is known as Puget Sound was formed by glacial action that terminated near Tenino in Thurston County. The entire system, of which Puget Sound is actually a small portion, also includes the Strait of Georgia and the Strait of Juan de Fuca. The large complex may be divided into nine oceanographic areas which are interrelated: Strait of Juan de Fuca, Admiralty Inlet, Puget Sound Basin, Southern Puget Sound, Hood Canal, Possession Sound, Bellingham Bay, San Juan Archipelago, and Georgia Strait (from Puget Sound and Adjacent Waters, Appendix XV, Plan Formulation.)

The economic development of the central Puget Sound Basin has been stimulated by the fact that the sound is one of the few areas in the world which provides several deepwater inland harbors. The use of Puget Sound waters by deep-draft vessels is on the increase due to its proximity to the developing Asian countries. This increased trade will attract more industry and more people which will put more use pressure on the Sound in the forms of recreation (sport fishing, boating and other water-related sports) and the requirements for increased food supply.

Puget Sound waters are rich in nutrients and support a wide variety of marine fish and shellfish species. An estimated 2,820 miles of stream are utilized by anadromous fish for spawning and rearing throughout the area. Some of these fish are chinook, coho, sockeye, pink and chum salmon, steelhead, searun cutthroat and Dolly Vardon trout. All these fish spend a portion of their lives in the saltwaters of Puget Sound and the Pacific Ocean before returning to streams of origin to spawn. The juveniles of these fish spend varying amounts of time in the shore waters of the area before moving to sea to grow to maturity. Aquaculture or sea farming is now in the process of becoming reality in the Puget Sound complex. The mass production of seaweed, clams, geoducks, scallops, shrimp, oysters, small salmon, lobsters and other possibilities looms as an important new industry. Shoreline management is particularly crucial to the success of sea farming. Aquaculture on any scale can be compatible and coexist with maritime shipping and shoreland industrial activities only be careful planning and regulation.

The shoreline resources of Puget Sound include few beach areas which are not covered at high tide. Bluffs ranging from 10 to 500 feet in height rim nearly the entire extent of the Sound making access to beach and intertidal areas difficult. Because of the glacial-till composition of these bluffs, they are susceptible to fluvial and marine erosion and present constant slide hazards. Although Puget Sound is protected from the direct influence of Pacific Ocean weather, storm conditions can create very turbulent and sometimes destructive wave action. Without recognizing the tremendous energy contained in storm

waves, development of shoreline resources can be hazardous and deleterious to the resource characteristics which make Puget Sound beaches attractive. (WAC 173-16-060 (11), (12), (13).)

(11) Pacific Ocean. From Cape Flattery on the north to Cape Disappointment on the south, there are approximately 160 miles of beaches, rocky headlands, inlets and estuaries on Washington's Pacific Coast. The shoreline south of Cape Flattery to the Quinault River is generally characterized as being rugged and rocky, with high bluffs. The remaining shoreline south of the Quinault River is predominantly flat sandy beaches with low banks and dunes.

During the winter, Pacific currents set toward the north, while during summer months they set to the south. Associated with the summer currents is a general offshore movement of surface water, resulting in upwelling of water from lower depths. This upwelled water is cold, high in salinity, low in oxygen content and rich in nutrients. It is this latter characteristic which causes upwelled water to be extremely significant in biological terms, since it often triggers "blooms" of marine plant life.

Directions of wave action and littoral drift of sediments shift seasonally with Pacific Ocean storms. Although very little data are available on the net direction of littoral transport, the University of Washington has offshore data which indicate a northerly offshore flow. RCW 43.51.650 declares:

"The beaches bounding the Pacific Ocean from the Straits of Juan de Fuca to Cape Disappointment at the mouth of the Columbia River constitute some of the last unspoiled seashore remaining in the United States. They provide the public with almost unlimited opportunities for recreational activities, like swimming, surfing and hiking; for outdoor sports, like hunting, fishing, clamming, and boating; for the observation of nature as it existed for hundreds of years before the arrival of white men and for relaxation away from the pressures and tensions of modern life. In past years, these recreational activities have been enjoyed by countless Washington citizens, as well as by tourists from other states and countries. The number of people wishing to participate in such recreational activities grows annually. This increasing public pressure makes it necessary that the state dedicate the use of the ocean beaches to public recreation and to provide certain recreational and sanitary facilities. Nonrecreational use of the beach must be strictly limited. Even recreational uses must be regulated in order that Washington's unrivaled seashore may be saved for our children in much the same form as we know it today." (See Appendix Reference Nos. 30 and 31.)

[Order DE 72-12, § 173-16-050, filed 6/20/72 and 7/20/72.]

WAC 173-16-060 The use activities.

This section contains guidelines for the local regulation of use activities proposed for shorelines. Each topic, representing a specific use or group of uses, is broadly defined and followed by several guidelines. These guidelines represent the criteria upon which judgments for proposed shoreline developments will be based until master programs are completed. In addition, these guidelines are intended to provide the basis for the development of that portion of the master program concerned with the regulation of such uses.

In addition to application of the guidelines in this section, the local government should identify the type or types of natural systems (as described in WAC 173-16-050) within which a use is proposed and should impose regulations on those developments and uses which would tend to affect adversely the natural characteristics needed to preserve the integrity of the system. Examples would include but would not be limited to proposed uses that would threaten the character of fragile dune areas, reduce water tables in marshes, impede water flow in estuaries, or threaten the stability of spits and bars.

These guidelines have been prepared in recognition of the flexibility needed to carry out effective local planning of shorelines. Therefore, the interpretation and application of the guidelines may vary relative to different local conditions. Exceptions to specific provisions of these guidelines may occur where local circumstances justify such departure. Any departure from these guidelines must, however, be compatible with the intent of the act as enunciated in RCW 90.58.020.

It should be noted that there are several guidelines for certain activities which are not explicitly defined in the shoreline act as developments for which substantial development permits are not required (for example, the suggestion that a buffer of permanent vegetation be maintained along water bodies in agriculture areas.) While such activities generally cannot be regulated through the permit system, it is intended that they be dealt with in the comprehensive master program in a manner consistent with policy and intent of the

Shoreline Act. To effectively provide for the management of the shorelines of the state, master programs should plan for and foster all reasonable and appropriate uses as provided in RCW 90.58.020.

Finally, most of the guidelines are intentionally written in general terms to allow some latitude for local government to expand and elaborate on them as local conditions warrant. The guidelines are adopted state regulations, however, and must be complied with both in permit application review and in master program development.

(1) Agricultural practices. Agricultural practices are those methods used in vegetation and soil management, such as tilling of soil, control of weeds, control of plant diseases and insect pests, soil maintenance and fertilization. Many of these practices require the use of agricultural chemicals, most of which are water soluble and may wash into contiguous land or water areas causing significant alteration and damage to plant and animal habitats, especially those in the fragile shoreline areas. Also, large quantities of mineral and organic sediments enter water bodies through surface erosion when proper land management techniques are not utilized. Guidelines:

(a) Local governments should encourage the maintenance of a buffer of permanent vegetation between tilled areas and associated water bodies which will retard surface runoff and reduce siltation.

(b) Master programs should establish criteria for the location of confined animal feeding operations, retention and storage ponds for feed lot wastes, and stock piles of manure solids in shorelines of the state so that water areas will not be polluted. Control guidelines prepared by the U.S. Environmental Protection Agency should be followed. (Also see Reference Nos. 3, 4, 5, 6, 7 and 8.)

(c) Local governments should encourage the use of erosion control measures, such as crop rotation, mulching, strip cropping and contour cultivation in conformance with guidelines and standards established by the Soil Conservation Service, U.S. Department of Agriculture.

(2) Aquaculture. Aquaculture is the culture or farming of food fish, shellfish, or other aquatic plants and animals. This activity is of state-wide and national interest. Properly managed, it can result in long term over short term benefit and can protect the resources and ecology of the shoreline. Aquaculture is dependent on the use of the water area and, when consistent with control of pollution and prevention of damage to the environment, is a preferred use of the water area.

Potential locations for aquaculture are relatively restricted due to specific requirements for water quality, temperature, flows, oxygen content, adjacent land uses, wind protection, commercial navigation, and, in marine waters, salinity. The technology associated with present-day aquaculture is still in its formative stages and experimental. Local shoreline master plans should therefore recognize the necessity for some latitude in the development of this emerging economic water use as well as its potential impact on existing uses and natural systems.

(a) Guidelines: (i) Aquacultural activities and structures should be located in areas where the navigational access of upland owners, recreational boaters and commercial traffic is not significantly restricted.

(ii) Recognition should be given to the possible detrimental impact aquacultural development might have on the visual access of upland owners and on the general aesthetic quality of the shoreline area.

(iii) As aquaculture technology expands with increasing knowledge and experience, emphasis should be placed on structures which do not significantly interfere with navigation or impair the aesthetic quality of Washington shorelines.

(iv) Certain aquacultural activities are of state-wide interest and should be managed in a consistent manner state-wide. Local master program development and administration should therefore seek to support state aquaculture management programs as expressed in state laws, regulations, and established management plans. State management programs should seek to determine and accommodate local environmental concerns. To facilitate state-local coordination, the department will encourage state agencies to develop specific resource management plans and to include participation of local shoreline agencies.

(v) Shellfish resources and conditions suitable for aquaculture only occur in limited areas. The utility and productivity of these sites is threatened by activities and developments which reduce water quality such as waste discharges, nonpoint runoff and disruption of bottom sediments. Proposed developments and activities should be evaluated for impact on productive aquaculture areas. Identified impacts should be mitigated through permit conditions and performance standards.

(vi) Aquaculture is a preferred, water-dependent use. Water surface, column, and bedland areas suitable for aquaculture are limited to certain sites. These sites are subject to pressures from competing uses and degradation of water quality. The shoreline program is intended to provide a comprehensive land and water use plan which will reduce these conflicts and provide for appropriate uses. Therefore, a special

effort should be made through the shoreline management program to identify and resolve resource use conflicts and resource management issues in regard to use of identified sites.

(b) Implementation of WAC 173-16-060 (2)(a)(vi): (i) Within one month of the effective date of this regulation, the department of ecology shall notify each local jurisdiction in which major subtidal clam or geoduck beds have been identified by the department of fisheries that a program update will be required. The department of ecology shall provide maps showing the general location of each jurisdiction's major subtidal clam and geoduck beds. The department shall also provide information on subtidal clam and geoduck harvesting techniques, environmental impacts, mitigation measures, and guidance on format and issue coverage for submittal of proposed amendments.

(ii) Each local jurisdiction with identified major beds shall evaluate the application of its shoreline master program to commercial use of the identified beds. Where necessary, amendments to the master program shall be prepared to better address management and use of the beds. For example, such amendments may be necessary to address newly identified concerns, to coordinate with state-wide interests, or to bring policies into conformance with current scientific knowledge.

(iii) Within four months of notification under WAC 173-16-060 (2)(b)(i), each affected jurisdiction shall submit a progress report to the department. This report shall outline the procedure which will be used to comply with WAC 173-16-060 (2)(b)(ii) and an assessment of the need for coastal zone management financial assistance.

(iv) Within thirteen months of notification by the department under WAC 173-16-060 (2)(b)(i), each affected local government shall submit to the department for approval all portions of the shoreline management master program affecting use of the identified sites for shellfish management. Submittals shall include relevant existing master program elements proposed to be retained as well as program additions. Explanation shall be submitted to the department for any use designations or management standards which would prohibit or prevent use of identified sites.

(v) The department, in considering local program submittals, will consider the advice of the state departments of fisheries and natural resources, other interested local, state, and federal agencies, and interest groups pertaining to the scientific basis, sufficiency, and practicality of proposed standards and use regulations.

(vi) The department may postpone notification under (i) above for those subtidal clam and geoduck beds which the department of social and health services believes are not certifiable. Should a bed become certifiable at some future date, the department shall make the notification required in (i) above.

(vii) If a local shoreline jurisdiction does not or is unable to comply with the requirements of this subsection, the department may undertake the required master program evaluation and preparation and adoption of necessary amendments.

(3) Forest management practices. Forest management practices are those methods used for the protection, production and harvesting of timber. Trees along a body of water provide shade which insulate the waters from detrimental temperature change and dissolved oxygen release. A stable water temperature and dissolved oxygen level provide a healthy environment for fish and other more delicate forms of aquatic life. Poor logging practices on shorelines alter this balance as well as result in slash and debris accumulation and may increase the suspended sediment load and the turbidity of the water. Guidelines:

(a) Seeding, mulching, matting and replanting should be accomplished where necessary to provide stability on areas of steep slope which have been logged. Replanted vegetation should be of a similar type and concentration as existing in the general vicinity of the logged area.

(b) Special attention should be directed in logging and thinning operations to prevent the accumulation of slash and other debris in contiguous waterways.

(c) Shoreline areas having scenic qualities, such as those providing a diversity of views, unique landscape contrasts, or landscape panoramas should be maintained as scenic views in timber harvesting areas. Timber harvesting practices, including road construction and debris removal, should be closely regulated so that the quality of the view and viewpoints in shoreline areas of the state are not degraded.

(d) Proper road and bridge design, location and construction and maintenance practices should be used to prevent development of roads and structures which would adversely affect shoreline resources.

(e) Timber harvesting practices in shorelines of the state should be conducted to maintain the state board of health standards for public water supplies. (See Reference No. 34.)

(f) Logging should be avoided on shorelines with slopes of such grade that large sediment runoff will be precipitated, unless adequate restoration and erosion control can be expeditiously accomplished.

(g) Local governments should ensure that timber harvesting on shorelines of state-wide significance does not exceed the limitations established in RCW 90.58.150 except as provided in cases where selective logging is rendered ecologically detrimental or is inadequate for preparation of land for other uses.

(h) Logging within shoreline areas should be conducted to ensure the maintenance of buffer strips of ground vegetation, brush, alder and conifers to prevent temperature increases adverse to fish populations and erosion of stream banks.

(4) Commercial development. Commercial developments are those uses which are involved in wholesale and retail trade or business activities. Commercial developments range from small businesses within residences, to high-rise office buildings. Commercial developments are intensive users of space because of extensive floor areas and because of facilities, such as parking, necessary to service them. Guidelines:

(a) Although many commercial developments benefit by a shoreline location, priority should be given to those commercial developments which are particularly dependent on their location and/or use of the shorelines of the state and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state.

(b) New commercial developments on shorelines should be encouraged to locate in those areas where current commercial uses exist.

(c) An assessment should be made of the effect a commercial structure will have on a scenic view significant to a given area or enjoyed by a significant number of people.

(d) Parking facilities should be placed inland away from the immediate water's edge and recreational beaches.

(5) Marinas. Marinas are facilities which provide boat launching, storage, supplies and services for small pleasure craft. There are two basic types of marinas: The open-type construction (floating breakwater and/or open-pile work) and solid-type construction (bulkhead and/or landfill). Depending upon the type of construction, marinas affect fish and shellfish habitats. Guidelines:

(a) In locating marinas, special plans should be made to protect the fish and shellfish resources that may be harmed by construction and operation of the facility.

(b) Marinas should be designed in a manner that will reduce damage to fish and shellfish resources and be aesthetically compatible with adjacent areas.

(c) Master programs should identify locations that are near high-use or potentially high-use areas for proposed marina sites. Local as well as regional "need" data should be considered as input in location selection.

(d) Special attention should be given to the design and development of operational procedures for fuel handling and storage in order to minimize accidental spillage and provide satisfactory means for handling those spills that do occur.

(e) Shallow-water embayments with poor flushing action should not be considered for overnight and long-term moorage facilities.

(f) The Washington state department of fisheries has prepared guidelines concerning the construction of marinas. These guidelines should be consulted in planning for marinas. (See Reference No. 16.)

(g) State and local health agencies have standards and guidelines for the development of marinas which shall be consulted by local agencies. (See Reference No. 18.)

(6) Mining. Mining is the removal of naturally occurring materials from the earth for economic use. The removal of sand and gravel from shoreline areas of Washington usually results in erosion of land and silting of water. These operations can create silt and kill bottom-living animals. The removal of sand from marine beaches can deplete a limited resource which may not be restored through natural processes. Guidelines:

(a) When rock, sand, gravel and minerals are removed from shoreline areas, adequate protection against sediment and silt production should be provided.

(b) Excavations for the production of sand, gravel and minerals should be done in conformance with the Washington State Surface Mining Act. (See Reference No. 20.)

(c) Local governments should strictly control or prohibit the removal of sand and gravel from marine beaches.

(d) When removal of sand and gravel from marine beaches is permitted by existing legislation, it should be taken from the least sensitive biophysical areas of the beach.

(7) Outdoor advertising, signs and billboards. Signs are publicly displayed boards whose purpose is to provide information, direction, or advertising. Signs may be pleasing or distracting, depending upon their design and location. A sign, in order to be effective, must attract attention; however, a message can be

clear and distinct without being offensive. There are areas where signs are not desirable, but generally it is the design that is undesirable, not the sign itself.

(a) Off-premise outdoor advertising signs should be limited to areas of high-intensity land use, such as commercial and industrial areas.

(b) Master programs should establish size, height, density, and lighting limitations for signs.

(c) Vistas and viewpoints should not be degraded and visual access to the water from such vistas should not be impaired by the placement of signs.

(d) Outdoor advertising signs (where permitted under local regulations) should be located on the upland side of public transportation routes which parallel and are adjacent to rivers and water bodies (unless it can be demonstrated that views will not be substantially obstructed).

(e) When feasible, signs should be constructed against existing buildings to minimize visual obstructions of the shoreline and water bodies.

(8) Residential development. The following guidelines should be recognized in the development of any subdivision on the shorelines of the state. To the extent possible, planned unit developments (sometimes called cluster developments) should be encouraged within the shoreline area. Within planned unit developments, substantial portions of land are reserved as open space or recreational areas for the joint use of the occupants of the development. This land may be provided by allowing houses to be placed on lots smaller than the legal minimum size for normal subdivisions, as long as the total number of dwellings in the planned unit development does not exceed the total allowable in a regular subdivision. Guidelines:

(a) Subdivisions should be designed at a level of density of site coverage and of occupancy compatible with the physical capabilities of the shoreline and water.

(b) Subdivisions should be designed so as to adequately protect the water and shoreline aesthetic characteristics.

(c) Subdividers should be encouraged to provide public pedestrian access to the shorelines within the subdivision.

(d) Residential development over water should not be permitted.

(e) Floating homes are to be located at moorage slips approved in accordance with the guidelines dealing with marinas, piers, and docks. In planning for floating homes, local governments should ensure that waste disposal practices meet local and state health regulations, that the homes are not located over highly productive fish food areas, and that the homes are located to be compatible with the intent of the designated environments.

(f) Residential developers should be required to indicate how they plan to preserve shore vegetation and control erosion during construction.

(g) Sewage disposal facilities, as well as water supply facilities, must be provided in accordance with appropriate state and local health regulations. Storm drainage facilities should be separate, not combined with sewage disposal systems.

(h) Adequate water supplies should be available so that the ground water quality will not be endangered by overpumping.

(9) Utilities. Utilities are services which produce and carry electric power, gas, sewage, communications and oil. At this time the most feasible methods of transmission are the lineal ones of pipes and wires. The installation of this apparatus necessarily disturbs the landscape but can usually be planned to have minimal visual and physical effect on the environment. Guidelines:

(a) Upon completion of installation/maintenance projects on shorelines, banks should be restored to preproject configuration, replanted with native species and provided maintenance care until the newly planted vegetation is established.

(b) Whenever these facilities must be placed in a shoreline area, the location should be chosen so as not to obstruct or destroy scenic views. Whenever feasible, these facilities should be placed underground, or designed to do minimal damage to the aesthetic qualities of the shoreline area.

(c) To the extent feasible, local government should attempt to incorporate major transmission line right of ways on shorelines into their program for public access to and along water bodies.

(d) Utilities should be located to meet the needs of future populations in areas planned to accommodate this growth.

The Washington state thermal power plant siting law (chapter 80.50 RCW) regulates the location of electrical generating and distribution facilities. Under this law, the state preempts the certification and regulation of thermal power plant sites and thermal power plants. (See Reference No. 28.)

(10) Ports and water-related industries. Ports are centers for water-borne traffic and as such have become gravitational points for industrial/manufacturing firms. Heavy industry may not specifically require a waterfront location, but is attracted to port areas because of the variety of transportation available. Guidelines:

(a) Water-dependent industries which require frontage on navigable water should be given priority over other industrial uses.

(b) Port facilities should be designed to permit viewing of harbor areas from view points, waterfront restaurants and similar public facilities which would not interfere with port operations or endanger public health and safety.

(c) Sewage treatment, water reclamation, desalinization and power plants should be located where they do not interfere with and are compatible with recreational, residential or other public uses of the water and shorelands. Waste treatment ponds for water-related industry should occupy as little shoreline as possible.

(d) The cooperative use of docking, parking, cargo handling and storage facilities should be strongly encouraged in waterfront industrial areas.

(e) Land transportation and utility corridors serving ports and water-related industry should follow the guidelines provided under the sections dealing with utilities and road and railroad design and construction. Where feasible, transportation and utility corridors should be located upland to reduce pressures for the use of waterfront sites.

(f) Master program planning should be based on a recognition of the regional nature of port services. Prior to allocating shorelands for port uses, local governments should consider state-wide needs and coordinate planning with other jurisdictions to avoid wasteful duplication of port services within port-service regions.

(g) Since industrial docks and piers are often longer and greater in bulk than recreational or residential piers, careful planning must be undertaken to reduce the adverse impact of such facilities on other water-dependent uses and shoreline resources. Because heavy industrial activities are associated with industrial piers and docks, the location of these facilities must be considered a major factor determining the environmental compatibility of such facilities.

(11) Bulkheads. Bulkheads or seawalls are structures erected parallel to and near the high-water mark for the purpose of protecting adjacent uplands from the action of waves or currents. Bulkheads are constructed of steel, timber or concrete piling, and may be either of solid or open-piling construction. For ocean-exposed locations, bulkheads do not provide a long-lived permanent solution, because eventually a more substantial wall is required as the beach continues to recede and layer waves reach the structure.

While bulkheads and seawalls may protect the uplands, they do not protect the adjacent beaches, and in many cases are actually detrimental to the beaches by speeding up the erosion of the sand in front of the structures.

The following guidelines apply to the construction of bulkheads and seawalls designed to protect the immediate upland area. Proposals for landfill must comply with the guidelines for that specific activity. Guidelines:

(a) Bulkheads and seawalls should be located and constructed in such a manner, which will not result in adverse effects on nearby beaches and will minimize alterations of the natural shoreline.

(b) Bulkheads and seawalls should be constructed in such a way as to minimize damage to fish and shellfish habitats. Open-piling construction is preferable in lieu of the solid type.

(c) Consider the effect of a proposed bulkhead on public access to publicly owned shorelines.

(d) Bulkheads and seawalls should be designed to blend in with the surroundings and not to detract from the aesthetic qualities of the shoreline.

(e) The construction of bulkheads should be permitted only where they provide protection to upland areas or facilities, not for the indirect purpose of creating land by filling behind the bulkhead. Landfill operations should satisfy the guidelines under WAC 173-16-060(14).

(12) Breakwaters. Breakwaters are another protective structure usually built offshore to protect beaches, bluffs, dunes or harbor areas from wave action. However, because offshore breakwaters are costly to build, they are seldom constructed to protect the natural features alone, but are generally constructed for navigational purposes also. Breakwaters can be either rigid in construction or floating. The rigid breakwaters, which are usually constructed of riprap or rock, have both beneficial and detrimental effects on the shore. All breakwaters eliminate wave action and thus protect the shore immediately behind them. They also obstruct the free flow of sand along the coast and starve the downstream beaches. Floating

breakwaters do not have the negative effect on sand movement, but cannot withstand extensive wave action and thus are impractical with present construction methods in many areas. Guidelines:

(a) Floating breakwaters are preferred to solid landfill types in order to maintain sand movement and fish habitat.

(b) Solid breakwaters should be constructed only where design modifications can eliminate potentially detrimental effects on the movement of sand and circulation of water.

(c) The restriction of the public use of the water surface as a result of breakwater construction must be recognized in the master program and must be considered in granting shoreline permits for their construction.

(13) Jetties and groins. Jetties and groins are structures designed to modify or control sand movement. A jetty is generally employed at inlets for the purpose of navigation improvements. When sand being transported along the coast by waves and currents arrives at an inlet, it flows inward on the flood tide to form an inner bar, and outward on ebb tide to form an outer bar. Both formations are harmful to navigation through the inlet.

A jetty is usually constructed of steel, concrete or rock. The type depends on foundation conditions and wave, climate and economic considerations. To be of maximum aid in maintaining the navigation channel, the jetty must be high enough to completely obstruct the sand stream. The adverse effect of a jetty is that sand is impounded at the updrift jetty and the supply of sand to the shore downdrift from the inlet is reduced, thus causing erosion.

Groins are barrier-type structures extending from the backshore seaward across the beach. The basic purpose of a groin is to interrupt the sand movement along a shore.

Groins can be constructed in many ways using timber, steel, concrete or rock, but can be classified into basic physical categories as high or low, long or short, and permeable or impermeable.

Trapping of sand by a groin is done at the expense of the adjacent downdrift shore, unless the groin system is filled with sand to its entrapment capacity. Guidelines:

(a) Master programs must consider sand movement and the effect of proposed jetties or groins on that sand movement. Provisions can be made to compensate for the adverse effects of the structures either by artificially transporting sand to the downdrift side of an inlet with jetties, or by artificially feeding the beaches in case of groins.

(b) Special attention should be given to the effect these structures will have on wildlife propagation and movement, and to the design of these structures which will not detract from the aesthetic quality of the shoreline.

(14) Landfill is the creation of dry upland area by the filling or depositing of sand, soil or gravel into a wetland area. Landfills also occur to replace shoreland areas removed by wave action or the normal erosive processes of nature. However, most landfills destroy the natural character of land, create unnatural heavy erosion and silting problems and diminish the existing water surface. Guidelines:

(a) Shoreline fills or cuts should be designed and located so that significant damage to existing ecological values or natural resources, or alteration of local currents will not occur, creating a hazard to adjacent life, property, and natural resources systems.

(b) All perimeters of fills should be provided with vegetation, retaining walls, or other mechanisms for erosion prevention.

(c) Fill materials should be of such quality that it will not cause problems of water quality. Shoreline areas are not to be considered for sanitary landfills or the disposal of solid waste.

(d) Priority should be given to landfills for water-dependent uses and for public uses. In evaluating fill projects and in designating areas appropriate for fill, such factors as total water surface reduction, navigation restriction, impediment to water flow and circulation, reduction of water quality and destruction of habitat should be considered.

(15) Solid waste disposal. Generally, all solid waste is a possible source of much nuisance. Rapid, safe and nuisance-free storage, collection, transportation and disposal are of vital concern to all persons and communities. If the disposal of solid waste material is not carefully planned and regulated, it can become not only a nuisance but a severe threat to the health and safety of human beings, livestock, wildlife and other biota. Guidelines:

(a) Local master programs and use regulations must be consistent with approved county or multicounty comprehensive solid waste management plans and regulations of jurisdictional health agencies.

(b) Local governments must regulate sanitary landfills and solid waste handling in accordance with regulations for solid waste handling when adopted by the department of ecology. New regulations

restricting sanitary landfills within any water course and within flood plains of any water course have been proposed for adoption by the department.

(16) Dredging. Dredging is the removal of earth from the bottom of a stream, river, lake, bay or other water body for the purposes of deepening a navigational channel or to obtain use of the bottom materials for landfill. A significant portion of all dredged materials are deposited either in the water or immediately adjacent to it, often resulting in problems of water quality. Guidelines:

(a) Local governments should control dredging to minimize damage to existing ecological values and natural resources of both the area to be dredged and the area for deposit of dredged materials.

(b) Local master programs must include long-range plans for the deposit and use of spoils on land. Spoil deposit sites in water areas should also be identified by local government in cooperation with the state departments of natural resources, game and fisheries. Depositing of dredge material in water areas should be allowed only for habitat improvement, to correct problems of material distribution affecting adversely fish and shellfish resources, or where the alternatives of depositing material on land is more detrimental to shoreline resources than depositing it in water areas.

(c) Dredging of bottom materials for the single purpose of obtaining fill material should be discouraged.

(17) Shoreline protection. Flood protection and streamway modifications are those activities occurring within the streamway and wetland areas which are designed to reduce overbank flow of high waters and stabilize eroding streambanks. Reduction of flood damage, bank stabilization to reduce sedimentation, and protection of property from erosion are normally achieved through watershed and flood plain management and by structural works. Such measures are often complementary to one another and several measures together may be necessary to achieve the desired end. Guidelines:

(a) Riprapping and other bank stabilization measures should be located, designed and constructed so as to avoid the need for channelization and to protect the natural character of the streamway.

(b) Where flood protection measures such as dikes are planned, they should be placed landward of the streamway, including associated swamps and marshes and other wetlands directly interrelated and interdependent with the stream proper.

(c) Flood protection measures which result in channelization should be avoided.

(18) Road and railroad design and construction. A road is a linear passageway, usually for motor vehicles, and a railroad is a surface linear passageway with tracks for train traffic. Their construction can limit access to shorelines, impair the visual qualities of water-oriented vistas, expose soils to erosion and retard the runoff of flood waters. Guidelines:

(a) Whenever feasible, major highways, freeways and railways should be located away from shorelands, except in port and heavy industrial areas, so that shoreland roads may be reserved for slow-moving recreational traffic.

(b) Roads located in wetland areas should be designed and maintained to prevent erosion and to permit a natural movement of ground water.

(c) All debris, overburden, and other waste materials from construction should be disposed of in such a way as to prevent their entry by erosion from drainage, high water, or other means into any water body.

(d) Road locations should be planned to fit the topography so that minimum alterations of natural conditions will be necessary.

(e) Scenic corridors with public roadways should have provision for safe pedestrian and other nonmotorized travel. Also, provision should be made for sufficient view points, rest areas and picnic areas in public shorelines.

(f) Extensive loops or spurs of old highways with high aesthetic quality should be kept in service as pleasure bypass routes, especially where main highways, paralleling the old highway, must carry large traffic volumes at high speeds.

(g) Since land-use and transportation facilities are so highly interrelated, the plans for each should be coordinated. The designation of potential high-use areas in master programs should be done after the environmental impact of the transportation facilities needed to serve those areas have been assessed.

(19) Piers. A pier or dock is a structure built over or floating upon the water, used as a landing place for marine transport or for recreational purposes. While floating docks generally create less of a visual impact than those on piling, they constitute an impediment to boat traffic and shoreline trolling. Floating docks can also alter beach sand patterns in areas where tides and littoral drift are significant. On lakes, a proliferation of piers along the shore can have the effect of substantially reducing the usuable water surface. Guidelines:

(a) The use of floating docks should be encouraged in those areas where scenic values are high and where conflicts with recreational boaters and fishermen will not be created.

(b) Open-pile piers should be encouraged where shore trolling is important, where there is significant littoral drift and where scenic values will not be impaired.

(c) Priority should be given to the use of community piers and docks in all new major waterfront subdivisions. In general, encouragement should be given to the cooperative use of piers and docks.

(d) Master programs should address the problem of the proliferation of single-purpose private piers and should establish criteria for their location, spacing, and length. The master programs should also delimit geographical areas where pile piers will have priority over floating docks.

(e) In providing for boat docking facilities in the master program, local governments should consider the capacity of the shoreline sites to absorb the impact of waste discharges from boats including gas and oil spillage.

(20) Archeological areas and historic sites. Archeological areas, ancient villages, military forts, old settlers homes, ghost towns, and trails were often located on shorelines because of the proximity of food resources and because water provided an important means of transportation. These sites are nonrenewable resources and many are in danger of being lost through present day changes in land use and urbanization. Because of their rarity and the educational link they provide to our past, these locations should be preserved. Guidelines:

(a) In preparing shoreline master programs, local governments should consult with professional archeologists to identify areas containing potentially valuable archeological data, and to establish procedures for salvaging the data.

(b) Where possible, sites should be permanently preserved for scientific study and public observation. In areas known to contain archeological data, local governments should attach a special condition to a shoreline permit providing for a site inspection and evaluation by an archeologist to ensure that possible archeological data are properly salvaged. Such a condition might also require approval by local government before work can resume on the project following such an examination.

(c) Shoreline permits, in general, should contain special provisions which require developers to notify local governments if any possible archeological data are uncovered during excavations.

(d) The National Historic Preservation Act of 1966 and chapter 43.51 RCW provide for the protection, rehabilitation, restoration and reconstruction of districts, sites, buildings, structures and objects significant in American and Washington history, architecture, archeology or culture. The state legislation names the director of the Washington state parks and recreation commission as the person responsible for this program.

(21) Recreation. Recreation is the refreshment of body and mind through forms of play, amusement or relaxation. Water-related recreation accounts for a very high proportion of all recreational activity in the Pacific Northwest. The recreational experience may be either an active one involving boating, swimming, fishing or hunting or the experience may be passive such as enjoying the natural beauty of a vista of a lake, river or saltwater area. Guidelines:

(a) Priority will be given to developments, other than single-family residences which are exempt from the permit requirements of the act, which provide recreational uses and other improvements facilitating public access to shorelines.

(b) Access to recreational locations such as fishing streams and hunting areas should be a combination of areas and linear access (parking areas and easements, for example) to prevent concentrations of use pressure at a few points.

(c) Master programs should encourage the linkage of shoreline parks and public access points through the use of linear access. Many types of connections can be used such as hiking paths, bicycle trails and/or scenic drives.

(d) Attention should be directed toward the effect the development of a recreational site will have on the environmental quality and natural resources of an area.

(e) Master programs should develop standards for the preservation and enhancement of scenic views and vistas.

(f) To avoid wasteful use of the limited supply of recreational shoreland, parking areas should be located inland away from the immediate edge of the water and recreational beaches. Access should be provided by walkways or other methods. Automobile traffic on beaches, dunes and fragile shoreland resources should be discouraged.

(g) Recreational developments should be of such variety as to satisfy the diversity of demands from groups in nearby population centers.

(h) The supply of recreation facilities should be directly proportional to the proximity of population and compatible with the environment designations.

(i) Facilities for intensive recreational activities should be provided where sewage disposal and vector control can be accomplished to meet public health standards without adversely altering the natural features attractive for recreational uses. (See Reference No. 35.)

(j) In locating proposed recreational facilities such as playing fields and golf courses and other open areas which use large quantities of fertilizers and pesticides in their turf maintenance programs, provisions must be made to prevent these chemicals from entering water. If this type of facility is approved on a shoreline location, provision should be made for protection of water areas from drainage and surface runoff.

(k) State and local health agencies have broad regulations which apply to recreation facilities, recreation watercraft and ocean beaches which should be consulted by local governments in preparing use regulations and issuing permits. (See Reference Nos. 30, 31, 35, 36, 37.)

[Statutory Authority: RCW 90.58.060 and 90.58.190. 80-15-072 (Order DE-80-37), § 173-16-060, filed 10/17/80; Order DE 72-12, § 173-16-060, filed 6/20/72 and 7/20/72.]

WAC 173-16-064 Ocean management.

(1) Purpose and intent. This section implements the Ocean Resources Management Act, (RCW 43.143.005 through 43.143.030) enacted in 1989 by the Washington state legislature. The law requires the department of ecology to develop guidelines and policies for the management of ocean uses and to serve as the basis for evaluation and modification of local shoreline management master programs of coastal local governments in Jefferson, Clallam, Grays Harbor, and Pacific counties. The guidelines are intended to clarify state shoreline management policy regarding use of coastal resources, address evolving interest in ocean development and prepare state and local agencies for new ocean developments and activities.

(2) Geographical application. The guidelines apply to Washington's coastal waters from Cape Disappointment at the mouth of the Columbia River north one hundred sixty miles to Cape Flattery at the entrance to the Strait of Juan De Fuca including the offshore ocean area, the near shore area under state ownership, shorelines of the state, and their adjacent uplands. Their broadest application would include an area seaward two hundred miles (RCW 43.143.020) and landward to include those uplands immediately adjacent to land under permit jurisdiction for which consistent planning is required under RCW 90.58.340. The guidelines address uses occurring in Washington's coastal waters, but not impacts generated from activities offshore of Oregon, Alaska, California, or British Columbia or impacts from Washington's offshore on the Strait of Juan de Fuca or other inland marine waters.

(3) Ocean uses defined. Ocean uses are activities or developments involving renewable and/or nonrenewable resources that occur on Washington's coastal waters and includes their associated off shore, near shore, inland marine, shoreland, and upland facilities and the supply, service, and distribution activities, such as crew ships, circulating to and between the activities and developments. Ocean uses involving nonrenewable resources include such activities as extraction of oil, gas and minerals, energy production, disposal of waste products, and salvage. Ocean uses which generally involve sustainable use of renewable resources include commercial, recreational, and tribal fishing, aquaculture, recreation, shellfish harvesting, and pleasure craft activity.

(4) Relationship to existing management programs. These guidelines augment existing requirements of the Shoreline Management Act, chapter 90.58 RCW, and those chapters in Title 173 of the Washington Administrative Code that implement the act. They are not intended to modify current resource allocation procedures or regulations administered by other agencies, such as the Washington department of fisheries management of commercial, recreational, and tribal fisheries. They are not intended to regulate recreational uses or currently existing commercial uses involving fishing or other renewable marine or ocean resources. Every effort will be made to take into account tribal interests and programs in the guidelines and master program amendment processes. After inclusion in the state coastal zone management program, these guidelines and resultant master programs will be used for federal consistency purposes in evaluating federal permits and activities in Washington's coastal waters. Participation in the

development of these guidelines and subsequent amendments to master programs will not preclude state and local government from opposing the introduction of new uses, such as oil and gas development.

These and other statutes, documents, and regulations referred to or cited in these rules may be reviewed at the department of ecology, headquarters in Lacey, Washington, for which the mailing address is Mailstop PV-11, Olympia, WA 98504.

(5) Regional approach. The guidelines are intended to foster a regional perspective and consistent approach for the management of ocean uses. While local governments may have need to vary their programs to accommodate local circumstances, local government should attempt and the department will review local programs for compliance with these guidelines and chapter 173-16 WAC: Shoreline Management Act guidelines for development of master programs. It is recognized that further amendments to the master programs may be required to address new information on critical and sensitive habitats and environmental impacts of ocean uses or to address future activities, such as oil development. In addition to the criteria in RCW 43.143.030, these guidelines apply to ocean uses until local master program amendments are adopted. The amended master program shall be the basis for review of an action that is either located exclusively in, or its environmental impacts confined to, one county. Where a proposal clearly involves more than one local jurisdiction, the guidelines shall be applied and remain in effect in addition to the provisions of the local master programs.

(6) Permit criteria: Local government and the department may permit ocean or coastal uses and activities as a substantial development, variance or conditional use only if the criteria of RCW 43.143.030(2) listed below are met or exceeded:

(a) There is a demonstrated significant local, state, or national need for the proposed use or activity;

(b) There is no reasonable alternative to meet the public need for the proposed use or activity;

(c) There will be no likely long-term significant adverse impacts to coastal or marine resources or uses;

(d) All reasonable steps are taken to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia River, Willapa Bay and Grays Harbor estuaries, and Olympic national park;

(e) All reasonable steps are taken to avoid and minimize adverse social and economic impacts, including impacts on aquaculture, recreation, tourism, navigation, air quality, and recreational, commercial, and tribal fishing;

(f) Compensation is provided to mitigate adverse impacts to coastal resources or uses;

(g) Plans and sufficient performance bonding are provided to ensure that the site will be rehabilitated after the use or activity is completed; and

(h) The use or activity complies with all applicable local, state, and federal laws and regulations.

(7) General ocean uses guidelines. The following guidelines apply to all ocean uses, their service, distribution, and supply activities and their associated facilities that require shoreline permits.

(a) Ocean uses and activities that will not adversely impact renewable resources shall be given priority over those that will. Correspondingly, ocean uses that will have less adverse impacts on renewable resources shall be given priority over uses that will have greater adverse impacts.

(b) Ocean uses that will have less adverse social and economic impacts on coastal uses and communities should be given priority over uses and activities that will have more such impacts.

(c) When the adverse impacts are generally equal, the ocean use that has less probable occurrence of a disaster should be given priority.

(d) The alternatives considered to meet a public need for a proposed use should be commensurate with the need for the proposed use. For example, if there is a demonstrated national need for a proposed use, then national alternatives should be considered.

(e) Chapter 197-11 WAC (SEPA rules) provides guidance in the application of the permit criteria and guidelines of this section. The range of impacts to be considered should be consistent with WAC 197-11-060 (4)(e) and 197-11-792 (2)(c). The determination of significant adverse impacts should be consistent with WAC 197-11-330(3) and 197-11-794. The sequence of actions described in WAC 197-11-768 should be used as an order of preference in evaluating steps to avoid and minimize adverse impacts.

(f) Impacts on commercial resources, such as the crab fishery, on noncommercial resources, such as environmentally critical and sensitive habitats, and on coastal uses, such as loss of equipment or loss of a fishing season, should be considered in determining compensation to mitigate adverse environmental, social and economic impacts to coastal resources and uses.

(g) Allocation of compensation to mitigate adverse impacts to coastal resources or uses should be based on the magnitude and/or degree of impact on the resource, jurisdiction and use.

(h) Rehabilitation plans and bonds prepared for ocean uses should address the effects of planned and unanticipated closures, completion of the activity, reasonably anticipated disasters, inflation, new technology, and new information about the environmental impacts to ensure that state of the art technology and methods are used.

(i) Local governments should evaluate their master programs and select the environment(s) for coastal waters that best meets the intent of chapter 173-16 WAC, these guidelines and chapter 90.58 RCW.

(j) Ocean uses and their associated coastal or upland facilities should be located, designed and operated to prevent, avoid, and minimize adverse impacts on migration routes and habitat areas of species listed as endangered or threatened, environmentally critical and sensitive habitats such as breeding, spawning, nursery, foraging areas and wetlands, and areas of high productivity for marine biota such as upwelling and estuaries.

(k) Ocean uses should be located to avoid adverse impacts on proposed or existing environmental and scientific preserves and sanctuaries, parks, and designated recreation areas.

(l) Ocean uses and their associated facilities should be located and designed to avoid and minimize adverse impacts on historic or culturally significant sites in compliance with chapter 27.34 RCW. Permits in general should contain special provisions that require permittees to comply with chapter 27.53 RCW if any archeological sites or archeological objects such as artifacts and shipwrecks are discovered.

(m) Ocean uses and their distribution, service, and supply vessels and aircraft should be located, designed, and operated in a manner that minimizes adverse impacts on fishing grounds, aquatic lands, or other renewable resource ocean use areas during the established, traditional, and recognized times they are used or when the resource could be adversely impacted.

(n) Ocean use service, supply, and distribution vessels and aircraft should be routed to avoid environmentally critical and sensitive habitats such as sea stacks and wet- lands, preserves, sanctuaries, bird colonies, and migration routes, during critical times those areas or species could be affected.

(o) In locating and designing associated onshore facilities, special attention should be given to the environment, the characteristics of the use, and the impact of a probable disaster, in order to assure adjacent uses, habitats, and communities adequate protection from explosions, spills, and other disasters.

(p) Ocean uses and their associated facilities should be located and designed to minimize impacts on existing water dependent businesses and existing land transportation routes to the maximum extent feasible.

(q) Onshore facilities associated with ocean uses should be located in communities where there is adequate sewer, water, power, and streets. Within those communities, if space is available at existing marine terminals, the onshore facilities should be located there.

(r) Attention should be given to the scheduling and method of constructing ocean use facilities and the location of temporary construction facilities to minimize impacts on tourism, recreation, commercial fishing, local communities, and the environment.

(s) Special attention should be given to the effect that ocean use facilities will have on recreational activities and experiences such as public access, aesthetics, and views.

(t) Detrimental effects on air and water quality, tourism, recreation, fishing, aquaculture, navigation, transportation, public infrastructure, public services, and community culture should be considered in avoiding and minimizing adverse social and economic impacts.

(u) Special attention should be given to designs and methods that prevent, avoid, and minimize adverse impacts such as noise, light, temperature changes, turbidity, water pollution and contaminated sediments on the marine, estuarine or upland environment. Such attention should be given particularly during critical migration periods and life stages of marine species and critical oceanographic processes.

(v) Preproject environmental baseline inventories and assessments and monitoring of ocean uses should be required when little is known about the effects on marine and estuarine ecosystems, renewable resource uses and coastal communities or the technology involved is likely to change.

(w) Oil and gas, mining, disposal, and energy producing ocean uses should be designed, constructed, and operated in a manner that minimizes environmental impacts on the coastal waters environment, particularly the seabed communities, and minimizes impacts on recreation and existing renewable resource uses such as fishing.

(x) To the extent feasible, the location of oil and gas, and mining facilities should be chosen to avoid and minimize impacts on shipping lanes or routes traditionally used by commercial and recreational fishermen to reach fishing areas.

(y) Discontinuance or shutdown of oil and gas, mining or energy producing ocean uses should be done in a manner that minimizes impacts to renewable resource ocean uses such as fishing, and restores the seabed to a condition similar to its original state to the maximum extent feasible.

(8) Oil and gas uses and activities. Oil and gas uses and activities involve the extraction of oil and gas resources from beneath the ocean.

(a) Whenever feasible oil and gas facilities should be located and designed to permit joint use in order to minimize adverse impacts to coastal resources and uses and the environment.

(b) Special attention should be given to the availability and adequacy of general disaster response capabilities in reviewing ocean locations for oil and gas facilities.

(c) Because environmental damage is a very probable impact of oil and gas uses, the adequacy of plans, equipment, staffing, procedures, and demonstrated financial and performance capabilities for preventing, responding to, and mitigating the effects of accidents and disasters such as oil spills should be major considerations in the review of permits for their location and operation. If a permit is issued, it should ensure that adequate prevention, response, and mitigation can be provided before the use is initiated and throughout the life of the use.

(d) Special attention should be given to the response times for public safety services such as police, fire, emergency medical, and hazardous materials spill response services in providing and reviewing onshore locations for oil and gas facilities.

(e) Oil and gas facilities including pipelines should be located, designed, constructed, and maintained in conformance with applicable requirements but should at a minimum ensure adequate protection from geological hazards such as liquefaction, hazardous slopes, earthquakes, physical oceanographic processes, and natural disasters.

(f) Upland disposal of oil and gas construction and operation materials and waste products such as cuttings and drilling muds should be allowed only in sites that meet applicable requirements.

(9) Ocean mining. Ocean mining includes such uses as the mining of metal, mineral, sand, and gravel resources from the sea floor.

(a) Seafloor mining should be located and operated to avoid detrimental effects on ground fishing or other renewable resource uses.

(b) Seafloor mining should be located and operated to avoid detrimental effects on beach erosion or accretion processes.

(c) Special attention should be given to habitat recovery rates in the review of permits for seafloor mining.

(10) Energy production. Energy production uses involve the production of energy in a usable form directly in or on the ocean rather than extracting a raw material that is transported elsewhere to produce energy in a readily usable form. Examples of these ocean uses are facilities that use wave action or differences in water temperature to generate electricity.

(a) Energy-producing uses should be located, constructed, and operated in a manner that has no detrimental effects on beach accretion or erosion and wave processes.

(b) An assessment should be made of the effect of energy producing uses on upwelling, and other oceanographic and ecosystem processes.

(c) Associated energy distribution facilities and lines should be located in existing utility rights-of-way and corridors whenever feasible, rather than creating new corridors that would be detrimental to the aesthetic qualities of the shoreline area.

(11) Ocean disposal. Ocean disposal uses involve the deliberate deposition or release of material at sea, such as solid wastes, industrial waste, radioactive waste, incineration, incinerator residue, dredged materials, vessels, aircraft, ordnance, platforms, or other man-made structures.

(a) Storage, loading, transporting, and disposal of materials shall be done in conformance with local, state, and federal requirements for protection of the environment.

(b) Ocean disposal shall be allowed only in sites that have been approved by the Washington department of ecology, the Washington department of natural resources, the United States Environmental Protection Agency, and the United States Army Corps of Engineers as appropriate.

(c) Ocean disposal sites should be located and designed to prevent, avoid, and minimize adverse impacts on environmentally critical and sensitive habitats, coastal resources and uses, or loss of opportunities for mineral resource development. Ocean disposal sites for which the primary purpose is habitat enhancement may be located in a wider variety of habitats, but the general intent of the guidelines should still be met.

(12) Transportation. Ocean transportation includes such uses as: Shipping, transferring between vessels, and offshore storage of oil and gas; transport of other goods and commodities; and offshore ports and airports. The following guidelines address transportation activities that originate or conclude in Washington's coastal waters or are transporting a nonrenewable resource extracted from the outer continental shelf off Washington.

(a) An assessment should be made of the impact transportation uses will have on renewable resource activities such as fishing and on environmentally critical and sensitive habitat areas, environmental and scientific preserves and sanctuaries.

(b) When feasible, hazardous materials such as oil, gas, explosives and chemicals, should not be transported through highly productive commercial, tribal, or recreational fishing areas. If no such feasible route exists, the routes used should pose the least environmental risk.

(c) Transportation uses should be located or routed to avoid habitat areas of endangered or threatened species, environmentally critical and sensitive habitats, migration routes of marine species and birds, marine sanctuaries and environmental or scientific preserves to the maximum extent feasible.

(13) Ocean research. Ocean research activities involve scientific investigation for the purpose of furthering knowledge and understanding. Investigation activities involving necessary and functionally related precursor activities to an ocean use or development may be considered exploration or part of the use or development. Since ocean research often involves activities and equipment, such as drilling and vessels, that also occur in exploration and ocean uses or developments, a case by case determination of the applicable regulations may be necessary.

(a) Ocean research should be encouraged to coordinate with other ocean uses occurring in the same area to minimize potential conflicts.

(b) Ocean research meeting the definition of "exploration activity" of WAC 173-15-020 shall comply with the requirements of chapter 173-15 WAC: Permits for oil or natural gas exploration activities conducted from state marine waters.

(c) Ocean research should be located and operated in a manner that minimizes intrusion into or disturbance of the coastal waters environment consistent with the purposes of the research and the intent of the general ocean use guidelines.

(d) Ocean research should be completed or discontinued in a manner that restores the environment to its original condition to the maximum extent feasible, consistent with the purposes of the research.

(e) Public dissemination of ocean research findings should be encouraged.

(14) Ocean salvage. Ocean salvage uses share characteristics of other ocean uses and involve relatively small sites occurring intermittently. Historic shipwreck salvage which combines aspects of recreation, exploration, research, and mining is an example of such a use.

(a) Nonemergency marine salvage and historic shipwreck salvage activities should be conducted in a manner that minimizes adverse impacts to the coastal waters environment and renewable resource uses such as fishing.

(b) Nonemergency marine salvage and historic shipwreck salvage activities should not be conducted in areas of cultural or historic significance unless part of a scientific effort sanctioned by appropriate governmental agencies.

[Statutory Authority: RCW 90.58.195. 91-10-033 (Order 91-08), § 173-16-064, filed 4/24/91, effective 5/25/91.]

WAC 173-16-070 Variances and conditional uses.

The act states that each local master program shall contain provisions covering conditional uses and variances. Any permit for a variance or a conditional use granted by local government under an approved master program must be submitted to the department for approval, approval with conditions, or disapproval. The criteria contained in WAC 173-14-140 and 173-14-150 for shoreline conditional use and variance permits shall constitute the minimum criteria for review of these permits by local government and the department. More restrictive criteria may be applied where it exists in approved and adopted local master programs.

These provisions should be utilized in a manner which, while protecting the environment, will assure that a person will be able to utilize his property in a fair and equitable manner.

[Statutory Authority: RCW 90.58.030, 90.58.120 and 90.58.200. 85-09-043 (Order DE 85-05), § 173-16-070, filed 4/15/85; Order DE 72-12, § 173-16-070, filed 6/20/72 and 7/20/72.]

WAC 173-16-200 Appendix.

Agricultural practices

1. Chapter 15.57 RCW, Washington Pesticide Act. Formulation, distribution and sale of agricultural pesticides.

2. Chapter 17.21 RCW, Washington Pesticide Application Act. Application equipment, licensing, records, handling of and enforcement.

3. Agricultural Extension Service, Washington State University, Pullman, June 1964, Cattle Manure Handling and Disposal.

4. Cooperative Extension Service, College of Agriculture, Washington State University, Pullman, October, 1965, Guideline for Sanitary Handling of Animal Manure.

5. Cooperative Extension Service, College of Agriculture, Washington State University, Pullman, June 1969, Guidelines for Handling Animal Wastes as Related to Water and Air Pollution Control.

6. Cooperative Extension Service, College of Agriculture, Washington State University, Pullman, June 1971, The Stockman's Role in Water Pollution Control.

7. Eric B. Wilson, University of Idaho, A Pacific Northwest Cooperative Extension Publication, PNW Bulletin 53, January 1963, Your Feedlot - Build It -- Mechanize It.

8. Cooperative Extension Service, College of Agriculture, Washington State University, Pullman, June 1971, Livestock Waste Management Guidelines.

Forest management practices

9. Chapter 76.04 RCW, Forest protection, fire and burning control, permits and enforcement.

10. Anonymous, Pacific Northwest Cooperative Extension Publication, March 1971, Building Woodland Roads, distributed by Washington State University Cooperative Extension Service, College of Agriculture.

11. State of Washington departments of fisheries, game and natural resources, Agreement, related to management of projects affecting land and fisheries resources.

12. Pacific Northwest Pollution Control Council, Task Force Report, August 1971, Log Storage and Rafting in Public Waters.

Aquaculture

13. Chapter 75.16 RCW, Food fish and shellfish conservation and propagation.

14. Chapter 248-58 WAC, State board of health, shellfish.

Archeological areas and historic sites

15. RCW 43.51.750 - 43.51.820, Preservation of sites and funding requirements.

Bulkheads and breakwaters

16. Washington state department of fisheries, criteria governing the design of bulkheads, landfills and marinas.

Landfill

17. Wilbour v. Gallagher 77 Wn.2d 306, 462 P.2d 232 (1969). See Bulkheads, this page.

Marinas

See Bulkheads, this page.

18. Chapter 248-148 WAC, Marinas (to be adopted).

Mining

19. RCW 43.51.685, Accreted lands, sale of sand and lease and removal permits.

20. Chapter 78.44 RCW, Surface Mining Act. Reclamation requirements, site inspection and permits.

Outdoor advertising

21. Chapter 47.42 RCW, Highway Advertising Control Act. Sign locations, scenic areas and permits.

Residential development

22. Bach v. Sarich. 74 Wn.2d 575, 445 P.2d 648 (1968).

23. Washington state department of social and health services, health services division, "standards for individual sewage waste disposal system."

24. U.S. Department of Agriculture, Soil Conservation Service, June 1967, Know the Soil You Build On, Bulletin No. 320.

25. U.S. Department of Agriculture, Soil Conservation Service, (September 1968) Soil Conservation, "Soil and Water Conservation in Suburbia" reprints available.

26. WAC 248-50-100 State board of health regulation, disposal of human excreta.

27. Chapter 248-96 WAC, State board of health regulation, individual sewage disposal (to be adopted).

Utilities

28. Chapter 80.50 RCW, Thermal power plants - site locations.

29. Ports and water related industries, Washington department of natural resources, proposed harbor area guidelines.

Pacific Ocean beaches

30. RCW 79.16.160 Declared a public highway.

31. RCW 79.16.172 Declared a public recreation area.

Environmental impacts

32. Chapter 43.21C RCW, Washington State Environmental Policy Act of 1971 requires all branches of government to include in every recommendation or report on proposals for legislation and other major actions significantly affecting the environment, a detailed statement by the responsible official on the environmental impact of the proposed action.

Public health, state board of health

33. WAC 248-50-140 Stagnant water

34. Chapter 248-54 WAC, Public water supplies

35. Chapter 248-72 WAC, Camps and parks

36. Chapter 248-92 WAC, Public sewage disposal

37. Chapter 248-98 WAC, Swimming pools, bathing beaches and wading pools

[Order DE 72-12, § 173-16-200, filed 6/20/72 and 7/20/72.]